CLAIMS

1. An implantable neurostimulator comprising:

a microprocessor;

a pulse generator that outputs at least two sets of electrical stimulation pulses having differing characteristics, wherein each set of stimulation pulses are associated with a unique stimulation setting, and wherein the pulse generator generates its outputs as directed by the microprocessor in accordance with at least one repetition parameter associated with each unique stimulation setting; and

at least one implanted lead electrically coupled to the output of the pulse generator that delivers the at least two sets of stimulation pulses with at least one electrode, to living tissue proximate to the at least one electrode.

2. The implantable neurostimulator of Claim 1, wherein at least one skipping parameter is associated with each unique stimulation setting, and wherein the microprocessor causes the pulse generator to skip a portion of a set of electrical stimulation pulses for a predetermined number of cycles in accordance with the at least one skipping parameter.

3. The implantable neurostimulator of Claim 1 wherein the at least one electrode further comprises a plurality of individual electrodes, and wherein each unique stimulation settings employs a combination of individual electrodes, and wherein the combination of individual electrodes employed by each unique stimulation setting may differ.

4. The implantable neurostimulator of Claim 1 wherein each set of stimulation pulses associated with a unique stimulation setting have differing pulse characteristics.

5. The implantable neurostimulator of Claim 1, wherein the living tissue comprises nerve tissue.

6. An electrical stimulation pulse generator, operable to electrically stimulate living tissue comprising:

a microprocessor;

a pulse generator that outputs at least two sets of electrical stimulation pulses with differing characteristics, wherein each set of stimulation pulses are associated with a unique stimulation setting, and wherein the pulse generator generates its outputs as directed by the microprocessor in accordance with at least one repetition parameter associated with each unique stimulation setting; and

a lead couple electrically coupled to the output of the pulse generator that delivers the at least two sets of stimulation pulses with at least one electrode, to living tissue proximate to the at least one electrode.

7. The electrical stimulation pulse generator of Claim 6, wherein at least one skipping parameter is associated with each unique stimulation setting, and wherein the microprocessor causes the pulse generator to skip a portion of a set of electrical stimulation pulses for a predetermined number of cycles in accordance with the at least one skipping parameter.

8. The electrical stimulation pulse generator of Claim 6, wherein the at least one electrode further comprises a plurality of individual electrodes, and wherein each unique stimulation settings employs a combination of individual electrodes, and wherein the combination of individual electrodes employed by each unique stimulation setting may differ.

9. The electrical stimulation pulse generator of Claim 6, wherein each set of stimulation pulses associated with a unique stimulation setting have differing pulse characteristics.

10. The electrical stimulation pulse generator of Claim 6, wherein a lead couples electrically to the output of the pulse generator to deliver the at least two sets of stimulation pulses with at least one electrode, and to living tissue proximate to the at least one electrode.

11. The electrical stimulation pulse generator of Claim 6, wherein the electrical stimulation pulse generator is implanted within a living organism.

12. The electrical stimulation pulse generator of Claim 7, wherein skipping a portion of a set of electrical stimulation pulses for a predetermined number of cycles in accordance with the at least one skipping parameter, causes power consumed by the electrical stimulation pulse generator to be reduced.

13. A method for stimulating living tissue(s) with an implantable neurostimulator having a set of stimulation settings, wherein each stimulation setting delivers electrical pulses with defined pulse characteristics to a set of electrodes, comprising the steps of:

selecting a first stimulation setting from the set of stimulation settings;

generating repeating electrical pulses according to the selected first stimulation setting wherein the selected first stimulation setting describes a repetition pattern for the repeating electrical pulses;

delivering the electrical pulses to the living tissue(s) according to the selected first stimulation setting to repeatedly stimulate the living tissue(s);

selecting at least one additional stimulation setting from the set of stimulation settings;

generating a second set of repeating electrical pulses according to the at least one additional selected stimulation setting wherein the at least one additional selected stimulation setting describes a repetition pattern for the second set of repeating electrical pulses;

delivering the second set of electrical pulses to the living tissue(s) according to the selected stimulation setting to further repeatedly stimulate the living tissue(s).

14. The method of Claim 13, further comprising the step of skipping at least one stimulation setting for a predetermined number of cycles in accordance with at least one skipping parameter.

15. The method of Claim 13, wherein each stimulation settings employs a combination of individual electrodes selected from the set of electrodes, and wherein the combination of individual electrodes employed by stimulation settings differ.

16. The method of Claim 13 wherein each stimulation settings employs differing pulse characteristics.

17. The method of Claim 13 wherein the steps are implemented by instructions executed by a microprocessor.

18. The method of Claim 13 wherein the steps are implemented by instructions executed by hardware.

19. A method for stimulating living tissue(s) with an implantable neurostimulator having a set of stimulation settings, wherein each stimulation setting delivers electrical pulses with defined pulse characteristics to a set of electrodes, comprising the steps of:

selecting a first stimulation setting from the set of stimulation settings;

generating repeating electrical pulses according to the first stimulation setting wherein the first stimulation setting describes a repetition pattern for the repeating electrical pulses;

delivering the electrical pulses to the living tissue(s) according to the first stimulation setting to repeatedly stimulate the living tissue(s);

selecting at least one additional stimulation setting from the set of stimulation settings;

generating a second set of repeating electrical pulses according to the at least one additional selected stimulation setting wherein the at least one additional selected stimulation setting describes a repetition pattern for the second set of repeating electrical pulses;

delivering the second set of electrical pulses to the living tissue(s) according to the selected stimulation setting to further repeatedly stimulate the living tissue(s); and

skipping at least one stimulation setting for a predetermined number of cycles in accordance with at least one skipping parameter.

20. The method of Claim 19, wherein the first stimulation setting and/or at least one additional stimulation setting cycling to a subsequent stimulation setting contained in the set of stimulation settings.

21. The method of Claim 19 wherein the steps are implemented by instructions executed by a microprocessor.

22. The method of Claim 19, wherein the electrical pulses delivered according to the first stimulation setting and the at least one additional stimulation setting are delivered to different living tissues.

23. The method of Claim 19, wherein the living tissues comprise nerve tissue.